

# OPINIONS AND DECLARATIONS RENDERED BY THE INTER- NATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

*Edited by*

**FRANCIS HEMMING, C.M.G., C.B.E.**

Secretary to the Commission

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## **OPINION 307**

Designation, under the Plenary Powers, of a type species in harmony with accustomed usage for *Arnioceras* Hyatt, 1867 (Class Cephalopoda, Order Ammonoidea), a genus based upon a misidentified type species



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# INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

## COMPOSITION AT THE TIME OF THE ADOPTION OF THE RULING GIVEN IN OPINION 307

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*President* : (Vacant)

*Vice-President* : Senhor Dr. Afranio do Amaral (*Sao Paulo, Brazil*).

*Secretary* : Mr. Francis Hemming (*London, England*).

### B. The Members of the Commission

(arranged in order of precedence by reference to date of election or of most recent re-election, as prescribed by the International Congress of Zoology).

Senhor Dr. Afranio do AMARAL (*S. Paulo, Brazil*) (*Vice-President*) (1st January 1944).

Professor J. R. DYMOND (*University of Toronto, Toronto, Canada*) (1st January 1944).

Professor J. Chester BRADLEY (*Cornell University, Ithaca, N.Y., U.S.A.*) (28th March 1944).

Professor Harold E. VOKES (*Johns Hopkins University, Baltimore, Maryland, U.S.A.*) (23rd April 1944).

Dr. William Thomas CALMAN (*Coulsdon, Surrey, England*) (1st January 1947).

Professor Béla HANKÓ (*Békéscsaba, Hungary*) (1st January 1947).

Dr. Norman R. STOLL (*Rockefeller Institute for Medical Research, New York, N.Y., U.S.A.*) (1st January 1947).

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Senor Dr. Angél CABRERA (*Eva Peron, F.C.N.G.R., Argentina*) (27th July 1948).

Mr. Francis HEMMING (*London, England*) (*Secretary*) (27th July 1948).

Dr. Joseph PEARSON (*Tasmanian Museum, Hobart, Tasmania, Australia*) (27th July 1948).

Dr. Henning LEMCHE (*Universitetets Zoologiske Museum, Copenhagen, Denmark*) (27th July 1948).

Professor Teiso ESAKI (*Kyushu University, Fukuoka, Japan*) (17th April 1950).

Professor Pierre BONNET (*Université de Toulouse, France*) (9th June 1950).

Mr. Norman Denbigh RILEY (*British Museum (Natural History), London*) (9th June 1950).

Professor Tadeusz JACZEWSKI (*Department of Systematic Zoology, Warsaw University, Warsaw, Poland*) (15th June 1950).

Professor Robert MERTENS (*Natur-Museum u. Forschungs-Institut Senckenberg, Frankfurt a. M., Germany*) (5th July 1950).

Professor Erich Martin HERING (*Zoologisches Museum der Humboldt-Universität zu Berlin, Germany*) (5th July 1950).

## OPINION 307

### DESIGNATION, UNDER THE PLENARY POWERS, OF A TYPE SPECIES IN HARMONY WITH ACCUSTOMED USAGE FOR "ARNIOCERAS" HYATT, 1867 (CLASS CEPHALOPODA, ORDER AMMONOIDEA), A GENUS BASED UPON A MISIDENTIFIED TYPE SPECIES

**RULING** :—(1) Under the Plenary Powers, (a) all type selections for the genus *Arnioceras* Hyatt, 1867 (Class Cephalopoda, Order Ammonoidea) made prior to the present Ruling are hereby set aside, and (b) *Arnioceras cuneiforme* Hyatt, 1867, is hereby designated to be the type species of the foregoing genus.

(2) The under-mentioned generic name is hereby placed on the *Official List of Generic Names in Zoology* as Name No. 751 : *Arnioceras* Hyatt, 1867 (gender : neuter) (type species, by designation, under the Plenary Powers, under (1)(b) above : *Arnioceras cuneiforme* Hyatt, 1867).

(3) The under-mentioned specific name is hereby placed on the *Official List of Specific Names in Zoology* as Name No. 171 : *cuneiforme* Hyatt, 1867, as published in the combination *Arnioceras cuneiforme* (specific name of type species, by designation, under the Plenary Powers, under (1)(b) above, of *Arnioceras* Hyatt, 1867).

### I.—THE STATEMENT OF THE CASE

On 23rd February 1951, Dr. W. J. Arkell (*Sedgwick Museum, Cambridge University, Cambridge*) submitted the following application for the use by the International Commission, under the special procedure prescribed by the Thirteenth International Congress of Zoology, Paris, 1948 (1950, *Bull. zool. Nomencl.* 4 : 158—159), of its Plenary Powers for the purpose of

designating a type species in harmony with accustomed usage for *Arnioceras* Hyatt, 1867 (Class Cephalopoda, Order Ammonoidea), a genus based upon a misidentified type species :—

**Proposed use of the Plenary Powers to designate the type species of the genus “*Arnioceras*” Hyatt, 1867 (Class Cephalopoda, Order Ammonoidea)**

By W. J. ARKELL, M.A., D.Sc., F.R.S.

(*Sedgwick Museum, Cambridge University, Cambridge*)

1. The present application for the use by the International Commission on Zoological Nomenclature of its Plenary Powers to designate, as the type species of the genus *Arnioceras* Hyatt, 1867 (*Bull. Mus. comp. Zool.* 1 : 73) (Class Cephalopoda, Order Ammonoidea), a species, other than that which would be the type species under the *Règles*, is submitted under the procedure prescribed by the Thirteenth International Congress of Zoology, Paris, July 1948 (see 1950, *Bull. zool. Nomencl.* 4 : 158—159) as that to be followed in the case of genera based upon misidentified type species.

2. The facts in this case are as follows: The generic name *Arnioceras* was first published by Hyatt in 1867, and has been in constant use ever since. No type species was designated or indicated at the time of publication; seven nominal species were cited as belonging to the genus so named. These species were: (1) *Arnioceras cuneiforme* Hyatt (a species then named—on page 73—for the first time); (2) *Arnioceras incipiens* Hyatt (also then a new nominal species but which later Hyatt (1889 : 170) identified with the earlier nominal species *Ammonites falcaries* Quenstedt, 1858 : 70); (3) *Arnioceras semicostatum* (Young & Bird, 1828 : 257, 259); (4) *Arnioceras kridiforme* Hyatt (a new nominal species based upon the species identified by d'Orbigny in 1844 as *Ammonites kridion* Hehl in Zieten [1830]); (5) *Arnioceras tardecrescens* (Hauer, 1856 : 20); (6) *Arnioceras ceratitoides* (Quenstedt, 1847 : 239); (7) *Arnioceras falcaries* (Quenstedt, 1858 : 70). In accordance with his normal practice, Hyatt attributed all but one of these names to himself, because he placed the species concerned in a genus different from that in which they had originally been described. The one exception made by Hyatt was in regard to the sixth of the nominal species referred by him to this genus; this species he cited as “*A. ceratitoides* L. Agassiz”. The probable explanation is provided by Hyatt's statement (1867 : 71) that Agassiz had selected five genera which Hyatt “referred to his authority”, and that Agassiz was responsible for suggesting the work to Hyatt and for proposing to classify the ammonites dealt with into families and genera. Presumably *ceratitoides* was a specific trivial name also suggested by Agassiz. It had not, however, been published by Agassiz at the time that Hyatt's paper appeared.

3. The first author to select a type species for the genus *Arnioceras* was Buckman (S.), who in 1911 (1 : vi) wrote : “ The type [species] is definitely indicated by the generic name and by the species credited to Agassiz *Arnioceras* (ἀρνειός, a ram) indicates a type with trivial name *ceras* or similar”. Buckman drew attention also to the fact that in 1889 ( : 169) Hyatt identified *Ammonites ceras* Giebel & Hauer, with *Ammonites ceras* Agassiz. “ On this evidence”, Buckman thought it desirable to select *Am. ceras* as figured by Hyatt in 1889 (*Gen. Ariet.* : pl. ii, fig. 20) as the type species of *Arnioceras* Hyatt ; Buckman wrote : “ Result : Genus *Arnioceras* Agassiz-Hyatt, 1867. Type *A. ceratitoides* Agassiz, of which *A. ceras* Agassiz (Hyatt, *Gen. Arietidae*, ii, 20) is genolectotype”. It should be noted that in 1867 ( : 74) Hyatt had placed *A. ceras* Giebel, 1852 ( : 757) in the synonymy of “ *Arnioceras ceratitoides* Agassiz”.

4. The first name placed by Hyatt (1867 : 74) in the synonymy of “ *A. ceratitoides* Agassiz”, was *Ammonites ceratitoides* Quenstedt, 1847 ( : 239, pl. xix, fig. 13—not fig. 3, as erroneously stated by Hyatt). Quenstedt’s publication of this name in 1847 was the first occasion on which it was used for this ammonite species. Thus, under the decision of the Paris (1948) Congress defining the species which are to be regarded as having been originally included in any given genus (1950, *Bull. zool. Nomencl.* 4 : 179—180), Buckman’s action in 1911 constitutes a valid selection of *Ammonites ceratitoides* Quenstedt, 1847, as the type species of *Arnioceras* Hyatt, 1867.

5. *Ammonites ceratitoides* Quenstedt, the type specimen of which is lost (Jaworski, 1931 : 117), is a Triassic ammonite, entirely different morphologically and in age from the Liassic group for which the generic name *Arnioceras* Hyatt has always been used. To transfer the name *Arnioceras* to Quenstedt’s species would produce chaotic confusion.

6. *Ammonites ceras* Agassiz, as identified by Hyatt in 1889 ( : 169, pl. ii, fig. 20), which is the species which Buckman intended to make the “ genolectotype” of *Arnioceras* Hyatt, was merely Hyatt’s attempted interpretation of *Ammonites ceras* Giebel, 1852 ( : 757), a species, the identity of which is uncertain. It is possible that, if his type specimens were to be found and re-studied, the species identified by Hyatt with *Ammonites ceras* Giebel might be found to be different and might need to be given a new name. In any case, under the decision of the Paris Congress to which reference has already been made, it would not have been possible to accept, as the type species of *Arnioceras*, Hyatt’s interpretation of *A. ceras* Giebel, for, even if it had been permissible under the *Règles* to treat “ *A. ceras*” as the type species of this genus, the species concerned would have to be the true *Ammonites ceras* of Giebel, which (as already explained) is an unknown quantity.



7. The genus *Arnioceras* Hyatt is thus a genus based upon a misidentified type species and in consequence the International Commission on Zoological Nomenclature is bound by the instructions given to it by the Congress to use its Plenary Powers to designate as the type species of this genus either (a) the species intended by the original author when citing the name of the erroneously determined species, or (b), if the identity of that species is doubtful, a species in harmony with current nomenclatorial usage, except where (as is not the case in the present instance) such action would itself lead to confusion. We have seen that the identity of the species which Buckman intended to refer to, when selecting the type species of *Arnioceras* Hyatt, is doubtful; accordingly, under the foregoing decision, it is necessary under the Plenary Powers to select, as the type species of this genus, a species in harmony with current practice. It is not necessary for this purpose that the species to be so selected should be one of the species originally included in the genus, though it is clearly preferable that, if practicable, such a species should be selected.

8. I have accordingly examined from the foregoing point of view each of the seven nominal species originally included by Hyatt in the genus *Arnioceras*. This examination indicates that *Arnioceras cuneiforme* Hyatt, 1867, is nearest to the figure that has hitherto been regarded as representing the type species of this genus, and is the most free from objections of various kinds. I accordingly recommend that it should now be designated as the type species of *Arnioceras* Hyatt.

9. The proposal which I now submit is therefore that the International Commission on Zoological Nomenclature should:—

- (1) under the procedure prescribed by the Thirteenth International Congress of Zoology for determining the type species of a genus based upon a misidentified type species, use its Plenary Powers (a) to set aside all selections of type species for the genus *Arnioceras* Hyatt, 1867, made prior to the proposed decision, and (b), having done so, to designate *Arnioceras cuneiforme* Hyatt, 1867, to be the type species of the foregoing genus;
- (2) place the generic name *Arnioceras* Hyatt, 1867 (type species, as proposed in (1) above to be designated under the Plenary Powers: *Arnioceras cuneiforme* Hyatt, 1867) (gender of generic name: neuter) on the *Official List of Generic Names in Zoology*;
- (3) place the trivial name *cuneiforme* Hyatt, 1867, as published in the binominal combination *Arnioceras cuneiforme*, on the *Official List of Specific Trivial Names in Zoology*.

## References :

- Buckman, S. S., 1911. *Yorkshire Type Ammonites*, 1
- Giebel, C. G., 1852. *Fauna der Vorwelt*. (Leipzig)
- Hyatt, A., 1867. "Fossil Cephalopods in the Museum of Comparative Zoology". *Bull. Mus. comp. Zool.* 1 (No. 5) : 71—74
- Hyatt, A., 1889. "Genesis of the Arietidae". *Smithson. Publ.* No. 673 (Washington)
- Jaworski, E., 1931. "Ueber *Arnioceras geometricum* Oppel, 1856 und verwandte Spezies; nebst einen Anhang über *Ammonites natrix* v. Schlotheim. 1820". *Neues Jahrb. Min. Geol. Pal.* 65B (Beil.-Bd.) : 84
- Oppel, A., 1856—1858. "Die Juraformation" (Stuttgart) (repaged reprint from *Württemb. naturw. Jahreshefte*)
- d'Orbigny, A., 1842—1851. *Paléontologie française, Terr. jurass., Mollusques* (Paris)
- Spath, L. F., 1924. "The ammonites of the Blue Lias". *Proc. geol. Assoc.* 35 : 186

## II.—THE SUBSEQUENT HISTORY OF THE CASE

2. *Registration of the present application* : On the receipt of Dr. Arkell's application, the question of the species to be accepted as the type species of the genus *Arnioceras* Hyatt, 1867, was allotted the Registered Number Z.N.(S.) 509.

3. *Publication of the present application* : The present application was sent to the printer in April 1951 and was published on 4th May 1951 in Triple-Part 6/8 of volume 2 of the *Bulletin of Zoological Nomenclature* (Arkell, 1951, *Bull. zool. Nomencl.* 2 : 217—219).

4. *Issue of Public Notices* : Under the revised arrangements approved by the Thirteenth International Congress of Zoology,

Paris, 1948 (1950, *Bull. zool. Nomencl.* 4 : 51—56), Public Notice of the possible use by the International Commission on Zoological Nomenclature of its Plenary Powers in the present case was given on 4th May 1951, both in Triple-Part 6/8 of volume 2 of the *Bulletin of Zoological Nomenclature*, the Part in which Dr. Arkell's application was published, and also to the other prescribed serial publications. In addition, Public Notice was given to certain palaeontological serial publications in Europe and America. The publication of these Notices elicited no objection to the action proposed.

5. *Support received from Dr. D. T. Donovan (University of Bristol, Department of Geology, Bristol)*: On 28th May 1951, Dr. D. T. Donovan (*University of Bristol, Department of Geology, Bristol*) addressed a letter to the Commission commenting upon a number of applications, including the present one. The following is an extract from the foregoing letter of the passage in which Dr. Donovan indicated his support for the present application (Donovan, 1951, *Bull. zool. Nomencl.* 2 : 335—336) :—

I write to comment on certain of the applications submitted to the International Commission on Zoological Nomenclature by Dr. W. J. Arkell and published in the *Bulletin of Zoological Nomenclature*, vol. 2, Parts 6/8.

I have been specialising in Liassic Ammonites for several years and have just completed an account of certain of them, while I am preparing revisions of two old monographs, namely Thomas Wright's "Monograph on the Lias Ammonites of the British Isles" and Pierre Reynes' "Monographie des Ammonites". Consequently, I am directly concerned with the effects of some of Dr. Arkell's proposals.

Page 217. *Type Species of Arnioceras Hyatt, 1867 (Z.N.(S.) 509)*

I agree with Dr. Arkell's proposals for the type species of this genus.

6. *Support received from the Joint Committee on Zoological Nomenclature for Paleontology in America*: On 9th April 1952 there was received a large number of letters commenting on



various applications previously published in the *Bulletin of Zoological Nomenclature* from Professor G. Winston Sinclair (then of the *University of Michigan, Ann Arbor, Michigan, U.S.A.*), Chairman of the Joint Committee on Zoological Nomenclature for Paleontology in America. Included among these was a letter reporting that the Committee supported the present application by six votes to five. The foregoing letter was dated 18th February 1952, and its late receipt was apparently due to a decision to defer the despatch to the Commission of the letters containing comments by members of the Joint Committee until all the letters in question had been prepared. By the date on which this letter was received, the Prescribed Period of Public Notice had expired and the Voting Paper (V.P.(52)26) relating to this case had been prepared. It was therefore impossible to include in that Voting Paper a reference to Professor Sinclair's letter, but, when the Voting Paper was despatched (24th April), a supplementary sheet containing the particulars furnished by Professor Sinclair was issued to the Members of the Commission, who were thus placed in possession of the views of the Joint Committee at the same time that they received the Voting Paper relating to the present case. The following is the text of Professor Sinclair's letter :—

The Joint Committee on Zoological Nomenclature for Paleontology in America has considered this question, and I wish to inform you that, being polled, they voted : To support the petition (six) : (1) Katherine V. W. Palmer ; (2) J. Marvin Weller ; (3) Bobb Schaeffer ; (4) Bryan Patterson ; (5) John B. Reeside, Jr. ; (6) R. C. Moore. To oppose the petition (five) : (1) Don L. Frizzell ; (2) A. Myra Keen ; (3) Siemon W. Muller ; (4) John W. Wells ; (5) G. Winston Sinclair.

### III.—THE DECISION OF THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

7. *Issue of Voting Paper V.P.(52)26* : On 24th April 1952, a Voting Paper (V.P.(52)26) was issued in which the Members of

the Commission were invited to vote either for, or against, the proposal "relating to the name *Arnioceras* Hyatt, 1867, as specified in Points (1) to (3) in paragraph 9 on page 219 of volume 2 of the *Bulletin of Zoological Nomenclature*" [*i.e.*, in paragraph 9 of the application reproduced in the first paragraph of the present *Opinion*].

8. *The Prescribed Voting Period*: As the foregoing Voting Paper was issued under the Three-Month Rule, the Prescribed Voting Period closed on 24th July 1952.

9. *Particulars of the Voting on Voting Paper V.P.(52)26*: The state of the voting on Voting Paper V.P.(52)26 at the close of the Prescribed Voting Period was as follows:—

(a) *Affirmative Votes had been given by the following fifteen (15) Commissioners (arranged in the order in which Votes were received)*:

Calman ; Hering ; Dymond ; Esaki ; do Amaral ;  
Hankó ; Bonnet ; Lemche ; Vokes ; Cabrera ; Pearson ;  
Bradley ; Boschma ; Mertens ; Hemming ;

(b) *Negative Votes had been given by two (2) Commissioners*:

Stoll ; Riley ;

(c) *Voting Paper not returned, one (1)*:

Jaczewski.

10. *Declaration of Result of Vote*: On 25th July 1942, Mr. Hemming, Secretary to the International Commission, acting as Returning Officer for the Vote taken on Voting Paper V.P.(52)26, signed a Certificate that the Votes cast were as set out in paragraph

9 above and declaring that the proposal submitted in the foregoing Voting Paper had been duly adopted and that the decision so taken was the decision of the International Commission in the matter aforesaid.

11. On 22nd March 1954 Mr. Hemming prepared the Ruling given in the present *Opinion* and at the same time signed a Certificate that the terms of that Ruling were in complete accord with those of the proposal approved by the International Commission in its Vote on Voting Paper V.P.(52)26.

12. The following are the original references for the names placed on *Official Lists* by the Ruling given in the present *Opinion* :—

*Arnioceras* Hyatt, 1867, *Bull. Mus. comp. Zool.* 1 (No. 5) : 73  
*cuneiforme*, *Arnioceras*, Hyatt, 1867, *Bull. Mus. comp. Zool.*  
1 (No. 5) : 73

13. At the time of the adoption of the Ruling given in the present *Opinion*, the expression prescribed for the second portion of the binomen which constitutes the scientific name of a species was the expression "trivial name" and the *Official List* reserved for recording such names was styled the *Official List of Specific Trivial Names in Zoology*, the word "trivial" appearing also in the title of the *Official Index* reserved for recording rejected and invalid names of this category. Under a decision taken by the Fourteenth International Congress of Zoology, Copenhagen, 1953, the expression "specific name" was substituted for the expression "trivial name" and corresponding changes were made in the titles of the *Official List* and *Official Index* of such names (1953, *Copenhagen Decisions zool. Nomencl.* : 21). The changes in terminology so adopted have been incorporated in the Ruling given in the present *Opinion*.

14. The prescribed procedures were duly complied with by the International Commission on Zoological Nomenclature in dealing with the present case, and the present *Opinion* is accordingly hereby rendered in the name of the said International

Commission by the under-signed Francis Hemming, Secretary to the International Commission on Zoological Nomenclature, in virtue of all and every the powers conferred upon him in that behalf.

15. The present *Opinion* shall be known as *Opinion* Three Hundred and Seven (307) of the International Commission on Zoological Nomenclature.

DONE in London, this Twenty-Second day of March, Nineteen Hundred and Fifty-Four.

*Secretary to the International Commission  
on Zoological Nomenclature*

**FRANCIS HEMMING**